

**COMMONWEALTH OF VIRGINIA  
Department of Environmental Quality  
Piedmont Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

BFI Waste Systems of North America, Inc. and  
Gas Recovery Systems, LLC (Engine owner/operator)  
Charles City Road Landfill (CCRLF) Facility  
Henrico County, Virginia

Permit No. PRO - 51069

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, BFI Waste Systems of North America, Inc. has applied for a Title V Operating Permit for its Charles City Road Landfill Facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:\_\_\_\_\_ Date: 09/07/2006

Air Permit Manager:\_\_\_\_\_ Date: 09/07/2006

Regional Permit Manager:\_\_\_\_\_ Date: 09/07/2006

## **FACILITY INFORMATION**

### **Permittee**

BFI Waste Systems of North America, Inc. and GRS, LLC (Engine owner/operator)  
Atlantic Regional Office  
P.O. Box 219  
Pineville, NC 28134

### **Facility**

BFI Waste Systems of North America, Inc.  
Charles City Road Landfill Facility  
2325 Charles City Road  
Henrico County, Virginia

### **Responsible Official**

Mr. Terry Armstrong  
President

### **Facility Contact**

Mr. Raymond McGowan  
Environmental Manager  
804-226-6197

**County-Plant Identification Number:** 51-087-0168

## **SOURCE DESCRIPTION:**

NAICS Code 562212 - BFI Waste Systems of North America, Inc., Charles City Road Landfill Facility is a closed Municipal Solid Waste (MSW) landfill (closed since 1996 and stopped accepting waste in 1993). Estimated emissions were calculated from the NMOC generation rates from the Landfill Gas Emission Model (Land GEM) using Tier 2 data from a test completed in December 2003. The estimated NMOC emission rate is 39.99 mega-grams and is below the 50 mega-gram emission rate that would make this facility applicable to formal Gas Collection and Control System requirements. The facility was permitted at 3.9 million mega-grams and operates a Landfill Gas Collection and Control System (1,604 SCFM), Three (3) Waukesha L7042GL internal combustion engines (generators owned and operated by Gas Recovery Systems, LLC), an enclosed flare system, all operated in accordance with the Federal plan, 40 CFR 62, Subpart GGG and Virginia Rule 4-43 (implements 40 CFR 60, Subpart Cc). Since the Gas Collection and Control System has been operated since 1992 and the facility may elect to continue energy recovery, requirements found in 40 CFR 62, Subpart GGG indicates that a Title V permit should be issued to the facility and remain in effect until the requirements of 40 CFR 62, subpart GGG and the State Only requirements of Rule 4-43 are completed.

This facility was originally permitted on May 8, 1992 (NSR), permit was superseded October 28, 1992, February 22, 2001 including the Gas Collection and Control System (GCCS) and energy recovery internal combustion engines and finally revised on February 8, 2006 to include The Federal Plan (40 CFR 62, Subpart GGG). The facility is now in the process of Title V permit issuance.

## **COMPLIANCE STATUS**

The last inspection at the facility by the Virginia Department of Environmental Quality occurred on August 21, 2002 and indicates compliance with the NSR permit issued on February 22, 2001. In addition, the source is believed to be in compliance the Federal plan, 40 CFR 62, Subpart GGG and Virginia Rule 4-43 (implements 40 CFR 60, Subpart Cc) for the operation of a MSW landfills gas collection and control system.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
P01	1	Municipal Solid Waste Landfill, Solid Waste Per No. 129	3.9 million Mega-grams  13 Million BTU/Hour (each)  49 Million BTU/Hour, 1640 scfm maximum	GCCS (1,604 SCFM)  and  Three (3) Waukesha L7042GL Internal Combustion (Landfill Gas) generators - <u>Primary</u>  Enclosed Flare System – <u>Secondary</u> (Callidus technology)	NA  PCD 1 PCD 2 PCD 3  PCD 4	NMOC	02/08/2006
		Landfill Surface Roads	--	--	--	--	--

## EMISSIONS INVENTORY:

A summary of BFI Waste Systems of North America, Inc., Charles City Road Landfill Facility's most recent annual emissions are shown below. Emission levels are expected to decrease over time as the landfill waste decomposes.

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]		
CRITERIA POLLUTANTS	POTENTIAL EMISSIONS	2005 ACTUAL EMISSIONS
Particulate Matter (PM/PM10)	17.3	8.81
Nitrogen Oxides (NOx)	38.8	19.87
Sulfur Dioxide (SO2)	0.4	0.21
Carbon Monoxide (CO)	97.5	49.63
VOC	10.7	5.52

## EMISSION UNIT APPLICABLE REQUIREMENTS:

The permitted design capacity of the BFI Waste Systems of North America, Inc., Charles City Road Landfill Facility, is 3.9 million Mg., Therefore, the landfill is regulated according to the Federal plan, 40 CFR 62, Subpart GGG and Virginia Rule 4-43 (implements 40 CFR 60, Subpart Cc).

## **LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:**

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the Commonwealth of Virginia Federal Operating Permit Regulations for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emissions units in a Title V source:

- a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.
- b. Any term or condition of any pre-construction permit issued pursuant to Article 6 (9 VAC 5-80-1100), Article 8 (9 VAC 5-80-1700 et seq.) of this part or Article 9 (9 VAC 5-80-2000) or of any operating permit issued pursuant to Article 5 (9 VAC 5-80-800), except for terms or conditions derived from applicable state requirements or from any requirement of these regulations not included in the definition of applicable requirement.
- c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5-50 (9 VAC 5-50-10 et seq.) or 9 VAC 5-60 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under § 111, 112 or 129 of the federal Clean Air Act.
- d. Any requirement concerning accident prevention under §112(r)(7) of the federal Clean Air Act.
- e. Any compliance monitoring requirements established pursuant to either §504(b) or §114(a)(3) of the federal Clean Air Act or these regulations.
- f. Any standard or other requirement for consumer and commercial products under § 183(e) of the federal Clean Air Act.
- g. Any standard or other requirement for tank vessels under §183(f) of the federal Clean Air Act.
- h. Any standard or other requirement in 40 CFR, Part 55 to control air pollution from outer continental shelf sources.
- i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator has determined that such requirements need not be contained in a permit issued under this article.
- j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et seq.) of this part.
- k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.
- l. Any standard or other requirement governing solid waste incineration under §129 of the Clean Air Act. Each state and federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5-80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state, but is not federally-enforceable is identified in the draft Title V permit as such.

## Limitations

The following Virginia Administrative Code and New Source Performance Standards have specific emission requirements that have been determined to be applicable:

- ▶ The Federal Plan (40 CFR 62, Subpart GGG) - Applicable to Unit Nos. P01, PCD 1, PCD 2, PCD 3 and PCD 4.
- ▶ See the 02/08/2006 NSR permit attached for wording in the permit Conditions.
- ▶ The 02/08/2006 NSR permit conditions 3, 4, 6, 8, 9, 10, 11 and 12 are included in the Title V permit. These conditions limit operation of the three (3) internal combustion engines (PCD 1-3) and enclosed flare (PCD 4) opacity, hourly and annual emissions, operational standards (NSPS 60.18), restricts operation to limit emissions below 97.5 tons per year for all pollutants, flare fuel types, engine and flare fuel quantity.

## Periodic Monitoring

The Federal Plan (40 CFR 62, Subpart GGG) requires the permittee to maintain records including design capacity of the landfill and Tier 2 estimated gas generation rate. These requirements have been incorporated in the permit in condition IV.A.15. Also, the permit requires calculation of NMOC emission rate using the procedures described in NSPS subpart WWW to determine when the permitted gas collection and control system may be removed.

Periodic monitoring requirements for the operation of the gas collection system are not applicable at this time because the system was permitted prior to the requirement. Additionally, the emissions are permitted below the minor source level of 100 TPY.

At least once per month, a Method 22 observation of the operating flare and/or three (3) internal combustion engines exhaust shall be made. The following new enhanced monitoring for opacity, condition (III.B.9) was added:

### III.B.9

**Visible Emissions Evaluations: Continuing Compliance** – Once per month, the permittee shall conduct an observation of the presence of visible emissions from the three operating engines (PCD1-3) and/or the flare (PCD-4). If visible emissions are observed, the permittee shall take timely corrective action such that the unit or units resume operation with no visible emissions, or perform a visible emissions evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from any of the three engines (E1-3) and/or flare does not exceed 5% opacity. The VEE shall be conducted for a minimum of six minutes. If any of the observation exceeds 5% opacity, the VEE shall be conducted for sixty minutes. If compliance is not demonstrated by the VEE, timely corrective action shall be taken such that the operating engines and/or flare resumes operation that is in compliance with the opacity limit. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observation, type of operations, whether or not there were visible emissions, any VEE recordings and necessary corrective actions. Upon request by the DEQ, the permittee shall conduct additional visible emission evaluations from the engines (PCD1-3) and/or the flare (PCD4) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Director, Piedmont Region.  
(9 VAC 5-170-160, 9 VAC 5-50-30 G, 9 VAC 5-50-50 and 9 VAC 5-50-410)

## **Record keeping**

The permit includes requirements for maintaining records of all monitoring and testing required by the NSR regulations. These records include the annual throughput of landfill gas, operating/firing temperature of the enclosed flare, operating procedures, maintenance schedule and service records of the control equipment, Training records, maintenance schedule including unscheduled maintenance written operating procedures and operator training records. These specific requirements are listed in the 02/08/2006 NSR permit condition 15, which is included in the Title V permit. The design plan in accordance with §60.752(b)(2)(i) has not been submitted. This is because the installation of the gas collection and control system has been in response to minor NSR permitting to operate a gas recovery system that produces electricity. And, It is not because of 40 CFR 60, NSPS Subpart WWW or The Federal Plan (40 CFR 62, Subpart GGG) requirements.

Also, the visible emissions log required in Condition III.A.9 of the Draft Title V permit.

## **Testing**

The facility shall be constructed to test or monitor upon reasonable notice per the 02/08/2006 NSR permit condition 7, which is included in the Title V permit. No initial performance test is required because of the Title V permit and no requirement to performance test is compatible with the beneficial use of the landfill gas in the 02/08/2006 NSR permit. In the case of the enclosed flare and the engines, monthly visible emissions observation are used to determine proper operation and is documented in a monthly log.

## **Reporting**

The facility shall submit an NMOC emission rate report (Tier 2) and equipment removal report 30 days prior to removal or cessation of operations of the control equipment per the Federal plan, 40 CFR 62, Subpart GGG and Virginia Rule 4-43 (implements 40 CFR 60, Subpart Cc) per the 02/08/2006 NSR permit condition 5, which is included in the Title V permit.

## **Facility Wide**

The facility shall limit facility wide emission to under 97.5 TPY, operate in accordance with the Federal plan, 40 CFR 62, Subpart GGG and Virginia Rule 4-43 (implements 40 CFR 60, Subpart Cc) per the 02/08/2006 NSR permit conditions 13, which is included in the Title V permit.

## **Streamlined Requirements**

None.

## **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

## **Comments on General Conditions**

### **B. Permit Expiration**

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general condition cites the Articles that follow:  
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80.

#### Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

### **F. Failure/Malfunction Reporting**

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:  
9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources  
9 VAC 5-40-50. Notification, Records and Reporting  
9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:  
40 CFR 60.13 (h). Monitoring Requirements.

### **J. Permit Modification**

This general condition cites the sections that follow:  
9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources  
9 VAC 5-80-190. Changes to Permits.  
9 VAC 5-80-260. Enforcement.  
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources  
9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas  
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Non-attainment Areas

## **U. Malfunction as an Affirmative Defense**

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

## **Y. Asbestos Requirements**

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

## **STATE ONLY APPLICABLE REQUIREMENTS**

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5 Chapter 50, Part II, Article 2: Standards of Performance for Odorous Emissions

9 VAC 5 Chapter 50, Part II, Article 3: Standards of Performance for Toxic Pollutants

## **REQUEST FOR VARIANCES OR ALTERNATIVES:**

None.

## **FUTURE APPLICABLE REQUIREMENTS**

On May 23, 2002 EPA proposed amendments to the Part 60 landfill rule (67 FR 36476). The purpose of the amendments is to clarify the rule with respect to a) what constitutes an adequate landfill gas treatment system, b) exemption from control of landfill gas that is treated/upgraded, and 3) who is responsible for control of untreated landfill gas that is sold. Based on the October 31, 2005 edition of the Federal Unified Agenda (70 FR 65234), promulgation of the amendments should occur by October 2006. For further information on the status of the landfill rule amendment, contact Ms. Martha Smith of EPA's Office of Air Quality Planning and Standards at (919) 541- 2421.  
Copy attached to Draft Title V permit and SOB.



# **INAPPLICABLE REQUIREMENTS**

Citation	Title of Citation	Description of applicability
None		

The landfill is closed (40 CFR 62, Subpart GGG).

# **INSIGNIFICANT EMISSION UNITS**

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, record keeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110. The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted	Rated Capacity (5-80-720 C)
T-1	Engine Oil Tank	9 VAC 5-80-720	VOC	1500 Gallons
T-2	Glycol Tank	9 VAC 5-80-720	VOC	500 Gallons
T-3	Waste Oil Tank	9 VAC 5-80-720	VOC	500 Gallons
T-4	Slop Oil Tank	9 VAC 5-80-720	VOC	500 Gallons
T-5	Compressor Oil Tank	9 VAC 5-80-720	VOC	500 Gallons

# **CONFIDENTIAL INFORMATION**

None.

# **COMMENT PERIOD:**

The public notice appeared in the *Richmond Times-Dispatch* on (July 19, 2006).

Beginning Date: (July 19, 2006)

Ending Date: (August 18, 2006)

No comments were received during the Public Comment period and US EPA did not comment on this final draft.

